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THE PLACENTA; WITH SPECIAL REFERENCE TO MANAGEMENT OF THIRD STAGE OF LABOR.*

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The formation of the placenta is begun soon after the fertilized ovum is imbedded in the site of future development. This, as you know, is usually the uterus, but in ectopic gestation may be anywhere from the ovary to the uterus. According to Williams, it is formed by the union of the chorion frondosum and the decidua basalis. Therefore, it is composed of both foetal and maternal tissue. It develops very rapidly, and during most of the first three and a half months of pregnancy exceeds the weight of the foetus. As to the further development of the placenta, I need not spend time on it here, as it is given in any good text book on Obstetrics.

The function of the placenta is interesting to all. It contains both foetal and maternal blood, which do not intermingle, but are in close apposition, being kept separate by a very thin wall through which substance may pass, after being radically changed by the chorionic epithilium. Through it the foetus breathes, and receives most of its nutrition, as well as certain substances being thrown off.

It is proven that certain diseases may be transmitted through the placenta, but it is probably not common. The organisms of typhoid fever are perhaps the most common.

I remember of a pregnant woman, who had smallpox about the seventh month of gestation, being delivered, shortly after she recovered, of a dead foetus which was literally covered with typical smallpox marks. I delivered a Chinese woman at full term of a dead baby. The woman had just recovered from a severe case of Asiatic cholera. The baby had been dead several days and death was likely caused by the toxins from the disease.

*Read before the section on Obstetrics and Pediatrics of Oklahoma State Medical Meeting, Oklahoma City, Oklahoma, May, 1922.

We who practice obstetrics have more concern about the placenta as we meet it in pathological conditions and in the third stage of labor. We meet the placenta in a very intimate way in all our placenta previa. The placenta in normal cases is usually implanted on the anterior or posterior wall of the uterus, occasionally on the lateral wall, and high enough so the lower margin does not come in contact with the internal os. In placenta previa, we have the condition where the internal os is partially or wholly covered by the placenta. I do not know the exact cause, but the two main theories are, multiparity and endometritis. I wish to cite a case which does not appear to come under either of these.

Mrs. H., age 23. First pregnancy. Family and personal history negative; menstrual history normal, pelvic measurements normal. Blood pressure, 115-75; expected date of delivery, February 24, 1922. Felt fine during all of gestation. On February 5th woke up about 3:00 a. m. and found she was flowing. Flowing stopped by morning. On February 7th, about 8:00 a. m. ,had another hemorrhage, and started in labor. The flowing soon stopped. I did a vaginal examination at 11:00 a. m., and found her two fingers dilated with a large thick edge of placenta protruding partly through the cervix; the placenta being posteriorally situated. Owing to placenta being very thick and located posteriorally the head could not engage. Since the baby was very active, with good foetal heart, and seemed near or very near maturity, continued pain with no engagement, patient being primipara, good sized baby, and both parents very anxious for a living child, after consultation we decided on doing a section. A well-developed eight-pound boy was delivered, and both mother and baby got along fine. Here we have the unusual case of a placenta previa literalis in a young primipara, being unable to find any cause for it. I shall not dwell further on the placenta previa here, as the subject deserves a paper to itself.

Another condition which causes the obstetrician a lot of worry is *abruptio placentae*. It, too, should be a paper in itself, therefore I shall not attempt to discuss it here.

THIRD STAGE OF LABOR.

The third stage of labor extends from the time the child is born until the placenta is delivered. This may be anywhere from a few seconds to several hours, but is usually under a half hour. It has always been more or less of a problem just how to get the after-birth. Take for instance, the Chinese, who knows nothing about asepsis, and where they only have some old woman care for the patient. If the placenta does not come, it causes a good deal of worry. One method they use is to have the patient chew her hair. The hair is combed in braids and she is made to chew this hair. As it is crammed into the mouth it tickles the throat and usually causes her to gag and vomit. As you know, this straining exerts forces on the uterus by increasing abdominal pressure. Usually out comes the placenta and the hair gets the credit for it. If it does not come this way, they use traction on cord, which sometimes breaks off, and they trust to nature that the placenta may be delivered sometime, and the patient not die. De Lee makes a very remarkable statement, that is, that more women die from accidents of the third stage of labor than during the other two combined.

As the third stage of labor proceeds we must watch very carefully for hemorrhage, both external and concealed. I believe it is a good practice to give one c. c. of pituitrin at the beginning of third stage in all cases. This will be discussed later. I am convinced that we as a rule manipulate the uterus too much before the placenta is separated. It is best to get a Schultz separation and delivery of placenta. I believe much handling of fundus before placenta is separated causes a Duncan separation and delivery; therefore, do not get in a rush to deliver the placenta, but palpate the uterus through the abdominal wall, only enough to make sure there is no concealed hemorrhage.

THE MECHANISM OF THE SEPARATION AND DELIVERY OF THE PLACENTA.

As the child is delivered the uterus contracts and causes a break in the continuity of the uterus and placenta. The placenta being more adherent around the margin, this break is usually near the center; and the blood collecting in this break, acts as a wedge, gradually separating the placenta, working from the center out. This blood clot is called the retroplacental hematoma. Where the edges hold till the last, the placenta turns inside out, and the foetal surface is delivered first, the membrane following after, we have what is called the Schultz method. This is perhaps the most common method of delivery, as well as the best, as the placenta and membrane will come away more completely. The other method, where the placenta comes away edgewise, is called Duncan's, and usually means that one edge has separated early and allowed this retroplacental hemotama to escape and thus has not aided in the separation. In the latter you have hemorrhage before the placenta is delivered, while in the former you usually do not.

Directly after the baby is delivered, and the placenta is still attached to the uterus, you find the fundus of uterus well below placenta is separated and forced down into the umbilicus, and still rather wide. As the placenta is separated and forced down into the lower uterine segment or vagina, the fundus rises a little and is found to be smaller. This is one of the most important points in the third stage of labor, to tell when the placenta is separated and descended into the lower uterus. The change in size and position of the fundus of uterus is very important. You may note a lengthening of the cord. This can be estimated by putting a clamp on cord, just where it emerges through the vulva, or in some way marking it. You must not put a clamp on cord, or in any way injure it until you are ready to separate it from the baby. The third method and one which I never fail to test out is as follows: By placing the hand edgewise just about the pubis you feel a soft baggy mass which is the placenta, and pushing upon the fundus you will find the cord recedes into the vagina in direct proportion to the distance you are able to push up the fundus if the placenta is still intact. You must first see that there is not a coil of the cord in the vagina, but that it is extended. If it does not recede any at all or very little when you push up on fundus, you are almost sure the placenta has separated.

In normal cases the placenta usually separates within a half hour after baby is delivered. If it is not separated within an hour there is usually some pathologic cause. I have had several cases where the placenta was seen to protrude from the vagina as soon as the baby was delivered, so there

must have been separation when baby was delivered. I remember one perfectly normal delivery, short labor, paratuo, where this happened and the baby did not breathe for thirty minutes. I know of no cause for this as cord was normal length and was not wound around baby's neck, but the uterine contraction was very strong.

As soon as I am sure the placenta has separated I have the patient bear down with a pain, if there is one, and the placenta is often expelled spontaneously. If she cannot expel it there is little gained by waiting, thus you should proceed to express it.

In 1853 Crede described a method of expressing the placenta, which, according to J. Whitridge Williams, is clasping the uterus through the abdominal wall, in the hand the thumb being anterior and fingers posterior, holding it firmly in hand, and as soon as a contraction occurs, firm and steady pressure should be made downward in the axis of the superior strait.

De Lee says that Crede in 1861 described the following method: Grasping the uterus in the hand as above described and forcibly squeezing the uterus, force the placenta out. If the placenta is already detached, I see no reason in squeezing the uterus, therefore I grasp the uterus firmly and simply use pressure in the axis of the inlet.

As the placenta comes out the vulva, the membranes are seen to follow after, and it is important to get these all away if you can. If you make strong traction on them they usually break off, and most are left in. Make gentle traction on them and if they seem tight, take one hand and by rubbing the uterus upward, beginning just above the pubis, it releases them. As you press upward, it first pulls the membrane up in the vagina a little, but as you release your pressure the membranes loosen and you can easily pull them out several inches, then they again become tight. Repeat this several times, and usually they all come away. Each time they come out some, you can move your clamp up so you always have a short hold on them. I believe this is better than twisting them, as they so often break off in twisting.

The importance of carefully examining the placenta after it is delivered was brought to my attention the other day, when I discovered a good sized placenta succenturiata. It was about the size of a silver dollar and the attachment to the main placenta was very small, and had it been torn off could easily have been overlooked and would without doubt have caused considerable trouble if left in the uterus. It is best to get all the membranes if possible, but should some of them be left in, there is less danger in allowing them to pass themselves in a day or two than to subject the patient to infection by introducing the hand up into the uterus. Large pieces of placenta are different, as they usually cause hemorrhage, sometimes very severe, and prevent the uterus from proper involution, therefore should be removed in as asceptic a manner as possible. There is no place that calls for stricter asepsis than where you introduce your hand or instruments, up into the uterus, just after a child has been delivered, or in doing version or medium or high forceps, and yet how lightly we often think of it, attempting it any place and under any conditions. Sometimes the place and conditions cannot be changed. Then we must do the best we can. I, for one, and perhaps all of us, have attempted things in a home, when we could have taken patient to hospital and been able to do better work.

THE USE OF PITUITARY EXTRACT DURING THIRD STAGE OF LABOR.

I am sure we are all interested and anxious to know, how we can cut down the amount of blood lost during the third stage of labor. During the discussion last year on the use of pituitrin, the question was raised as to just when, in obstetrics, we are to use it. I believe that the greatest use we have for pituitrin in obstetrics is during the third stage of labor. I wish here to discuss some recent reports on its use. Ryder reports on one hundred consecutive cases, from the Sloan Hospital for Women. Each had one c. c. of pituitrin given at beginning of the third stage. In twenty-five the placenta was expelled spontaneously before twenty minutes. In seventy-four it was expressed by Crede, with slight pressure at end of twenty minutes, and in one it was expressed by Crede, using strong pressure under ether, at end of one hour. The average time of placenta delivery was 18.2 minutes. The average amount of hemorrhage was 5.9 oz. For comparison, there were one hundred other cases which did not have pituitrin given at the beginning of the third stage of labor. *None* of these expelled the placenta spontaneously. In 98 it was expelled easily by Crede. Two had to be extracted manually after one hour, where three attempts with Crede had failed.

The average time of third-stage was 17.5

minutes. The average hemorrhage was 8.2 oz. In this series it would indicate that it is a safe practice, as none of the 100 cases in which it was given had any bad effect.

[2]Drs. Broadhead and Langruck also reporting 100 cases have the following to say: One c. c. of pituitary extract was given at the beginning of the third stage. The placenta was expelled spontaneously in 19 cases. In 78 cases it was expressed by Crede. In two, manually removed from the vagina, while the other one was an hour glass contraction and had to be manually removed. The average hemorrhage in all the cases during third stage was only 135 c. c. or 4.22 oz.

[3]Dr. Cron reports the following from the University of Michigan. His series covers 135 consecutive cases. One c. c. of pituitary extract was given deep intramuscularly immediately following the birth of the child. Reporting on all but seven cases, the seven being pathological, there was an average of 255 c. c or 7.9 oz. of blood lost. The average length of the third stage was only 12.1 minutes. The loss of blood was reduced from 330 c. c. in the control to 255 c. c. in the pituitrin cases, and the length of the third stage from 38 minutes to 12.1.

Here we have a series of 328 cases reported by three different groups of men from three different places, and we find the average loss of blood to be about 193 c. c. or 6 oz. Compare this with some of our best men, where pituitrin was not used. Williams gives 343 c. c. in 1000 spontaneous labors; De Le gives 300; Ahlfell gives 505 c. c. in 2,058 cases. Here we see some very positive results in a large enough series that we must take notice. Some may contend that it causes complication, but that has not been my experience. In my short experience, I have had three cases of hourglass contraction, where no pituitrin was used and none where it was used.

HOURGLASS CONTRACTION OF UTERUS IN THIRD STAGE OF LABOR.

I am able to find very little in the literature on this subject. but most authors mention it, so it must be recognized as a condition. Some, however, think it due to a misuse of certain drugs, or the improper conduct of the third stage of labor, or some pathological condition of the placenta, in its relation to the uterus. I wish to report three cases before commenting on it. The first case I saw while in China, in 1917. She was a missionary, had just returned from America to China about a month previous; had a rather rough ocean trip, and after reaching her station unpacked some trunks and boxes. Para two, and just about seven and a half months in gestation. One morning she had quite a profuse hemorrhage. A diagnosis of partial premature separation of the placenta was made. As the hemorrhage soon stopped and foetal heart sounds were good, and since they were very anxious to have a baby, she was put to bed and expectant treatment was employed, hoping to carry her along so as to give the baby a better chance. I was able to carry her for two weeks, a little bleeding along, when one morning she had quite a profuse hemorrhage, whereupon I packed the vagina and labor came on promptly. There was more or less bleeding during labor, which was about six hours duration. Since the foetal heart remained good I allowed her to deliver herself of a six-pound boy, premature, but quite strong. I waited for the placenta to be delivered but it failed to come down. After waiting one hour, during which time she continued to bleed some, and several attempts at Crede having failed, I introduced my hand into the uterus and found a distinct hourglass contraction, with about half the placenta above the contraction. I was able to dilate and remove the placenta, whereupon the hemorrhage ceased and mother and baby got along fine. No anaesthetic was used.

The second case was a para one, age twenty; lacked about two months of being due. I was called in on the case. Foetus was in traverse position. Version and extraction were done. The placenta failed to come away and after waiting one hour, during which time, there was some bleeding and Crede method had been tried several times without success, I introduced my hand into the uterus and found an hourglass contraction. About half of the placenta was above contraction. Extraction was made under gas anesthesia. Patient made an uneventful recovery.

The third case was Mrs. W., age 32. Para four, full term, normal birth. Duration of labor about four hours. Uterus contracted down nicely, but placenta never seemed to descend into lower uterine segment. There was no hemorrhage and uterus remained firmly contracted. Crede was tried in thirty minutes and again at end of one hour without results. I was reasonably sure of the conditions. On introduction of my hand into uterus I found a perfect hourglass contraction, with none of the placenta below the contraction. So

strong was the contraction that it squeezed the cord and at first I could not even get a finger in. After I secured complete ether anesthesia, I was able to slowly dilate. The placenta was adherent and I had quite a time to get it separated. Patient made a perfectly normal recovery.

Here we have three separate cases, each different. None of them had any medication. There was nothing out of the ordinary about the conduct of labor. The first two cases were premature, with small babies and uterus was not at any time overdistended. The second case I did version and extraction, while the other two delivered spontaneously; therefore, I am unable even to suggest any etiology. The strictest aseptic precautions were observed with perfect results. I do not believe the use of pituritin at the beginning of the third stage of labor tends to bring on this condition, but rather would have a tendency to believe just the opposite.

I am not sure but what these contractions might relax after several hours and the placenta be delivered spontaneously. How can we determine that we have an hourglass contraction unless we put our hand up into the uterus? Why not, when the hand is once in the uterus, dilate and remove the placenta and end it? I feel it would not be wise in all cases, and conditions, to go up into the uterus, therefore we must find some safe method of treatment. When you have severe hemorrhage, as I had in that first case, you must do something. If by the use of pituritin at the beginning of the third stage of labor you could prevent this condition, it would be an easy remedy. My experience along this line has been too limited to be at all conclusive, but I should like to hear from others, who may have met with this condition, just what they think of it, and how they treated it.

I do not have the time to discuss adherent placenta, the different kinds of placenta, or hemorrhage and its treatment during the third stage of labor, all of which are not only important but most interesting.

SUMMARY.

Strive to get the placenta and membrane away complete in every case without endangering your patient to infection any more than you have to.

Try to receive a Schultz separation and delivery of placenta, this being secured by as little manipulation of the uterus as possible.

Pituitary extract has a distinct place in obstetrics, which is in the third stage of labor.

An hourglass contraction during third stage of labor is a reality, and demands more consideration as to its symptoms and treatment.

In closing, allow me to say, there is no phase in medicine which demands more consideration and *stricter* asepsis than obstetrics, and especially the third stage of labor.

1. The American Journal of Obstetrics and Gynecology. Vol. II, No. 1.

2. The American Journal of Obstetrics and Gynecology. Vol. III, No. 2.

3. The American Journal of Obstetrics and Gynecology. Vol. III, No. 3.

Discussion by WALTER W. WELLS, Oklahoma City, Okla.

The care of the third stage of labor has always been interesting to me. I have been in the habit of letting the mother rest for ten to twenty minutes, then taking hold of the cord, and with just slight traction, so as to make the cord taut, move the cord right, then left, then up and down. This will usually cause some irritation of the cervix, and by telling the patient to bear down, with the stimulation of the cervix from the cord as stated there will be a good contraction of the uterus, and in the majority of cases the placenta will be expelled. This I believe leaves the uterus contracted down after the expulsion of the placenta.

Now in regard to the use of pituitary extract, I never use it before the delivery of the placenta, except when I do a Cesarean Section, then give a hypodermic of 1 c. c. pituitary extract, just as I make the incision into the uterus.

Discussion: W. A. FOWLER, M. D., Oklahoma City.

The reference to three cases of hourglass contraction of the uterus in so short a time is rather unusual. I have never recognized this condition in my own practice. It is possible that in passing the examining finger through the widely dilated monco tractile lower segment of the uterus to mistake the beginning of muscular portion for an hourglass contraction.

We all know, however, that this condition does exist and we frequently have two or three cases of a very unusual condition

in a short period of time and this is doubtless the case with Dr. Brown.

Dr. Brown very clearly describes the normal mechanism in the separation of the placenta. We should give a great deal more time to the study of what has been called the "perfect plan of nature."

The normal interval between the contractions of the uterus is Nature's provision to allow the effusion of blood at the detached acreas in the placental site, this blood acting as a wedge to produce further separation of the placenta during succeeding pains. The signs of the detachment of the placenta have been very accurately given. The process is best favored in my opinion by leaving the fundus strictly alone until detachment has taken place.

When I was in school, we were told to grasp the fundus and hold it firmly during the third stage. This instruction I carried out very faithfully. I noticed, however, that in the cases where the condition of the baby prevented my doing this, I had very much less trouble with the placenta. At the Long Island Hospital, a very large series of cases was reported in their outpatient department, in which there was no treatment of the uterus until the placenta was detached, without a single case of postmortem hemorrhage or manual extraction of the placenta. These results have certainly not been improved upon by the men who recommend such measures as the routine administration of pituitary extract in the third stage of labor.

Closing: J. WINTER BROWN, M. D.

The frank and free discussion of my paper has certainly been a pleasure to me.

I fear the method suggested by Dr. Osborne for separation of the placenta by using salt solution will not prove practical.

I am glad to hear that Dr. Fowler agrees with me, that in most cases there is too much manipulation of the uterus. He described a condition which he says he sometimes meets, which seems to be identical with what I described and called an hourglass contraction; but he seems to be afraid to give it a name. A number of others seem to discredit such a thing as an hourglass contraction. A name in most cases means very little, being more of a convenience. I have three times met with a very definite condition which I called hourglass contraction. Dr. Fowler described a similar condition, unnamed. One or two other men today have mentioned similar conditions where a patient was untreated, or treatment began too late, where patient died. Therefore, taking the three cases I have this day reported, and from what I have heard here, I am sure that there is such a condition and that it demands prompt and serious care, whether we call it hourglass contraction or something else.

A number of doctors here today do not seem to take well to the routine use of pituritin in third stage of labor. Dr. Lowery, reporting definite figures does not seem to see the need, but did he use controls in his series? All the others seem to be personal opinions without figures or facts to back them.

One doctor even seemed to doubt the advisability of making advancement in obstetrics, but the fact that babies were born a hundred years ago, let them be born today with the same care. There has been advancement made in every other line; take for example, farming, traveling, stockraising; and in every other line of medicine. I am for conservative advancement in obstetrics as well as in every other thing; and I believe if we make child-bearing safer for both mother and child, less suffering for mother, and seeing that she is not a physical wreck after the baby is born, we will do much to eliminate our childless homes.

I want to here thank each one who has taken part, and assure you all that I am for better obstetrics in our state and nation.

HISTORY, EXAMINATION AND ANTE-PARTUM CARE IN PREGANCY.*

DICK LOWRY, B. S., M. D.,
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A good history with accurate physical examination and proper prenatal care is something to which every pregnant woman is justly entitled. When this phase of obstetrics is no longer neglected the art of our specialty will have made its greatest advance from its present low plane.

HISTORY.

There are a few significant points in taking a prenatal history. The family history should deal particularly with tuberculosis, apoplexy, paralysis, brights disease and cancer. We should ascertain the character

*Read in Section on Pediatrics and Obstetrics, Thirtieth Annual Meeting, Oklahoma City, May 9-11, 1922.

of labor experienced by the women of the family as it may indicate the possible type of labor in our case or give us a clue to a contracted pelvis. In taking up the patient's past history a most important point is to question her concerning any severe illness she has ever had which might have had a pernicious effect upon her heart, liver, lungs or kidneys. We should determine whether or not she has had typhoid, pneumonia, scarlet fever, diphtheria, smallpox, quinsy or rheumatism with any complications. The operative history should be taken. Of course her cardio-respiratory, gastro-intestinal and genito-urinary history should be obtained. Her marital history must be complete with full information concerning her children, previous pregnancies and abortions and previous labors. We should question her concerning any signs and symptoms of toxemia.

PHYSICAL EXAMINATION.

It goes without saying that the physical examination must be complete and very careful. Every organ in the woman's body is affected by the function of gestation and we must determine accurately her physical fitness for undergoing these changes.

Since the heart, lungs, liver and kidneys are put upon the greatest strain a closer investigation into their efficiency is imperative.

HEART.

We all realize the gravity of heart complications of pregnancy. In considering these, the most important point is to determine the myocardial efficiency, as myocardial disease is more serious than the valvular defects. We must not place too much emphasis upon murmurs alone. However, it is important that we recognize the various types of murmurs and place upon each its relative significance. Mackenzie states that: "Systolic murmurs, no matter in which area they are the loudest should never be a cause of anxiety in pregnancy. That if they occur in a heart which shows no other abnormal signs, and if the patient's response to effort is good they should be ignored. If they are associated with other signs of heart disease the prognosis should be based on those other signs and not on the systolic murmurs." Remember that 40% of pregnant women have a physiological or functional murmur? How do we recognize the functional murmur? (1) They are always systolic in time. (2) Their point of maximum intensity is variable; they may be loudest at the base, midsternum or apex. (3) They may come and go; may disappear when patient is in recumbent position, or may be magnified by same. The same applies to standing. (4) They are not transmitted. (5) There is no evidence of accompanying cardiac pathology or symptoms of cardiac inefficiency.

On the other hand, any murmur that is rough, harsh, transmitted, diastolic or presystolic in time is practically always indicative of a valvular defect, and upon finding them we should immediately search for further signs of cardiac inefficiency. We should never forget to palpate for a thrill, remembering that mitral stenosis is the most common of valvular defects with which heart failure is associated and is the most serious of the murmurs. It is more frequent in women than men and is often not diagnosed. Seventy-six per cent of Cabot's mitral stenosis cases were in women and only about 50% of those found at autopsy had been diagnosed in hospital life. At early stenosis may be very variable and inconstant in its physical signs.

All pregnancies seem to draw more or less on the reserve force of the heart, and it is very important to recognize the early symptoms and signs of heart failure. They are: (1) poor response to effort; (2) premature fatigue; (3) increase in respiration; (4) increase in pulse; (5) oedema of base of lungs. The last is the most reliable symptom. Mackenzie found in many pregnancy cases fine crepitant rales at the bases, which disappeared after a few deep inspirations. But when they persist even after deep inspirations it is usually a sign of beginning failure.

Every organic heart case in pregnancy should be under very close supervision. Physical activities such as climbing stairs and walking should be restricted to the necessary degree, and an abundance of rest; in bed if necessary, should be taken by the patient. It is my opinion that any case of mitral stenosis or aortic regurgitation, upon developing any early signs of cardiac weakness, should be interrupted. Dr. Newell says: "In primiparae with mitral stenosis or with aortic lesion delivery should in his opinion be accomplished by Caesarian section, preferably about two weeks before the estimated date of labor, so as to spare the heart the increasing strain of the last few weeks of pregnancy." In any event in all heart cases we know we should desire a short painless first state with a rapid (probably instrumental) second stage.

LUNGS.

Turning to the lungs of course we think primarily of tuberculosis. We know the influence of pregnancy on tuberculosis is unfavorable in about 75% of cases. Many cases of T.-B. date their first symptom from childbirth. It is estimated that one-third of the pregnant tubercular women die within one year of their confinement and that there are 32,000 tubercular women pregnant every year in the U. S. A. Laryngeal tuberculosis is very serious in pregnancy. Lobenstein collected 231 cases of this type from literature with 200 deaths during pregnancy, labor or soon after, a mortality of 86%.

The diagnosis of T.-B. must still depend chiefly upon the physical findings and history with possibly a little assistance from the tuberculin and complement fixation tests and x-ray.

Of course we should all be able to diagnose moderately advanced tuberculosis but we should always inquire and examine closely for evidence of the incipient stage. In this stage the pulse is generally frequent and upon effort has an abnormal acceleration. A slight rise in temperature is the rule but not a necessary symptom. Loss in weight, or rather a slow gain, in pregnancy, is an important symptom. Pain in the lung or shoulder is not uncommon. Hoarseness with history of coryza, laryngitis or bronchitis may be present. Anorexia is not infrequent. In the physical examination I think ausculation is the most dependable. Our first suggestive change is development of so-called roughened breathing. Moist crepitant rales is an early sign but we must remember that they may not be found for a long time.

It is my opinion that any case of pregnancy with activity; moisture in the lungs and rise in temperature which does not respond rapidly to rest in bed should be interrupted early in pregnancy. Arrested cases should be closely observed with insistence upon proper rest and diet.

FOCAL INFECTIONS.

Searching for evidence of focal infections should demand our close attention in these examinations. This is important not only from the standpoint of the mother but also from its influence on the placenta and child. Talbot in an A. M. A. article states that focal infections are capable of throwing bacteria into the blood stream and may be a menace to the baby. Nearly every baby which in his experience developed hemorrhage of the newborn had come from a mother with a demonstrable peridental infection. He reported 97 consecutive toxemias, every one of which showed chronic dental sepsis. Breast abscess, infection of the birth canal, pyelitis, hydromnios, abortion, hemorrhagic disease of the newborn and pustulular eruption of the newborn are some of the conditions which he thinks focal infections may cause. Tonsils, teeth and sinuses of course are generally the offenders.

Let us devote a moment to the points in recognition of dental sepsis and tonsillar infection. Preliminary to examining the mount we should search for anterior cervical adenopathy. Should we find an enlargement of the anterior cervical glands without a generalized adenopathy we immediately suspect the teeth or tonsils.

How are we to recognize peri-dental infections? Points that make us suspicious are: (1) swollen, red, inflamed gums; (2) bleeding gums; (3) ability to express pus or exudate by pressure against gums; (4) lateral movement of the tooth by digital examination and any perpendicular movement of the tooth by pressure on top of the tooth; (5) x-ray assists in the diagnosis; (6) probably the most certain way to determine infected pockets is to search about all surfaces of all teeth with a metal instrument (dental instrument) with a thin but not sharp blade. If such an instrument can be passed more than 1½ m. m. past the gum margin without meeting resistance it is a very suspicious condition.

Teeth carrying fixed bridges are especially suspicious because a strong tooth at one end of the bridge may act as a splint and support a very weak infected one attached to the other end.

All pulpous (with pulp destroyed) teeth are predisposed to alveolar abscesses. We may suspect pulpous teeth by (1) tenderness to percussion; (2) discoloration of tooth; (3) tooth that is painful to heat but not to cold.

A tooth with a pivot crown is always suspicious.

The profession has been very conservative in the management of focal infections in pregnancy. With rare exceptions we should treat them during the first eight months as though there was no pregnancy.

INFECTED TONSILS.

Points that would make us suspicious of infected tonsils are: (1) past history of

quinsy; (2) reddened anterior pillows; (3) ability to express necrotic foul smelling material from the tonsil; (4) spongy tonsils with open crypts; (5) anterior crevical adenopathy with negative teeth.

PYELITIS.

Pyelitis is such a frequent complication of pregnancy that we should ever be on the alert to observe a history of pain in the back, dysuria, frequency of urination and vesical tenesmus. We should never omit papation of the kidney region and gentle succussion with fist over the costo-vertebral angle.

SYPHILIS.

Syphilis is a condition that should always be looked for. Since it has been claimed that at least 40% of women infected with syphilis present no objective symptoms nor are they aware of their condition, a routine Wassermann should be done. Williams states that syphilis accounts for 34% of foetal deaths and deaths in early infancy; almost as much as the next three causes, namely: dystocia, tomemia and pre-maturity, combined.

Upon discovering syphilis, of course active and thorough treatment should be instituted immediately.

GRAVES' DISEASE.

We should always examine closely for this condition. Other toxes symptoms of pregnancy not infrequently simulate it. In its severe form it is generally aggravated by pregnancy. In labor we should make an effort to relieve the strain which pain and bearing down have upon those hearts.

LIVER AND KIDNEYS.

In determining the efficiency of the liver and kidneys the most dependable and accurate method at our hands is blood chemistry. Authorities pretty well agree that in normal pregnancy, as compared to the non-pregnant state, we get a low total N. P. N., low urea nitrogen and very low ratio of urea nitrogen to the total non-protein nitrogen. There is some discrepancy of opinion as to the ability to differentiate hepatic and renal toxemias by blood chemistry. However, in the toxemias as a whole we get an increased N. P. N., though the urea-nitrogen may vary considerably.

In pre-eclamptic conditions we find a high uric acid retention and in some cases it is the only nitrogen waste product which is very much increased.

BLOOD PRESSURE AND UNINALYSIS.

Of course the significance of routine blood pressure examinations with complete urinalysis every two weeks until the last month, then every week, cannot be over-estimated. Any elevation of pressure to 140 or above should cause you to suspect toxemia. Albuminuria should always serve as a danger signal and should prompt a search for its etiology and indicate treatment and closer investigation into kidney efficiency. Urinary concentration tests are enlightening and easily done. The sp. gr. should always attract our attention. Morning specimen should be obtained and should run a sp. gr. of about 1017-18; 1015 should arouse your suspicion and 1010 should cause you to feel reasonably certain there is a kidney inefficiency.

DIABETES.

Let us remember that while true diabetes mellitus is rare in pregnancy it is often completely overlooked and that we may have hyperglycemia with no glycosuria. As Dr. Bell has said: "It is quite conceivable that many cases may have died, in coma supposedly uremic, when in reality the condition was unrecognized diabetic coma." In taking our histories we should pay attention to symptoms of thirst, furncles, spuritus and possibly family tendency toward diabetes. Should we be at all suspicious we should obtain a blood sugar estimation. Should we find a glycosuria at any time we should immediately determine if there is a hyperglycemia or whether we are dealing with a plain lactosuria or clycosuria. The effect of true diabetes upon pregnancy is bad and during the first four months of pregnancy is an indication for interruption.

BASAL METABOLISM.

It would be interesting could we determine basal metabolism in our cases. Dr. Baer in a recent article states that the basal metabolism rate in normal cases in late pregnancy averages 33-35% above normal non-pregnant women. Seven days post-partum it is normal. He further states that death of the foetus in late pregnancy is detectable by a drop in basal metabolism. It may help in differentiating multiple from single pregnancies.

X-RAY.

The x-ray has established a very definite place in obstetriics. Dr. Petterson says: "There is every indication that pregnancy can be diagnosticated as early as the sixth week by pneumo-peritoneal x-ray." It is of great assistance in determining the foetal position and probably roent-geneologic pervimetry will soon prove accurate and dependable.

ABDOMINAL EXTERNAL AND INTERNAL PELVIC EXAMINATION.

Abdominal, external and *internal pelvic examination* with measurements are among the *most important* features of the examination. I will not dwell upon them only to emphasize their *very great importance.*

PRE-NATAL CARE.

Dr. Beck of Brooklyn, recently reviewed 3,000 cases and definitely proved that under pre-natal supervision there had been a reduction in foetal mortality of over 66%. There is no argument against; and every possible argument for; proper pre-natal management. For many years its neglect has been disgraceful, but the obstetrician is gratified to see the laity and profession now beginning to realize more and more its value.

In conclusion I will simply give the list of instructions given to the pre-natal cases in the Dispensary of our State Medical School:

"Every woman should consult a doctor as soon as she learns she is pregnant.

1. Bring a specimen of urine to the dispensary and have the blood pressure taken every two weeks.

2. Return to the dispensary or communicate with the doctor or nurse at once if you have:

(1) Pain.
(2) Bad headache or dizziness.
(3) Much swelling of face, feet or limbs.
(4) Chills or fever.
(5) Severe constipation.
(6) If you don't feel the child move.
(7) Any other unusual symptoms.

3. If you bleed, go to bed and notify the doctor or nurse at once.

4. Walking in the fresh air is good for you. Avoid heavy lifting or other violent exercise. Don't get too tired at any time. Plenty of open air exercise every day, and plenty of sleep with windows open will keep you and your baby well.

5. A simple, wholesome diet of well-cooked food is what you need. Do not over-eat. Avoid generally eating between meals. Eat very sparingly of meats and acids. Avoid very salty or very greasy foods. Drink two quarts of liquid a day.

6. You should have at least one good bowel movement a day. Two movements a day are better. Eating coarse cereals, such as oatmeal; bran or graham bread and cereals; fruits such as prunes; and drinking plenty of water will help keep the bowels regular. Consult the doctor if these measures are not sufficient.

7. Take a bath every day, a tub bath with soap and warm water at least once a week. During the last three weeks of pregnancy sponge or shower bath only, is preferable.

8. Douches, examinations or sexual intercourse are dangerous during the last six weeks of pregnancy.

9. Your clothing should be comfortably warm, not too heavy, and should be hung from the shoulders. A properly fitted maternity corset may be worn. Low-heeled shoes are best.

10. During the last month of pregnancy wash the nipples daily with tepid water, a soft cloth, and some mild soap, such as castile soap, after which dry them with a clean towel.

11. Massage the abdomen each night during the latter half of pregnancy with olive oil or some such lubricant. This tends to prevent the stripe or scars in the abdominal wall frequently occurring during pregnancy.

12. At the time of confinement and during the two weeks following, you and your baby should have the best hospital, medical and nursing care. If unable to come to the dispensary for these examinations the nurse should be notified on the proper date.

14. After being allowed out of bed take the knee-chest position for three or four minutes once or twice a day after which lie on either side for about two hours. This should be kept up for at least four weeks.

15. Report to the dispensary if you have backache, sense of fullness about the pelvis or other unusual symptoms after getting up.

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Discussion: DR. E. P. ALLEN, Oklahoma City, Okla.

Dr. Lowry's paper is very interesting and instructive, and if the men who are doing obstetrics would study these cases

and take the interest in them and care for them as Dr. Lowry cares for his patients, we would not lose ten thousand or more mothers every year in the United States from childbirth, and have ten times that many more who are permanently disabled as a result of improper care during this period.

A pregnant woman is subjected to all the illnesses that anyone else is and I know of no condition, either acute or chronic, that cannot be treated at this time, if treatment is indicated. Dr. Lowry has told you all foci of infection should be carefully looked for and removed, however, it has been the belief of the laity for centuries that foci of infection, and especially bad teeth could be treated at this time. Even now we subject ourselves to severe criticism if some accident should happen during the treatment of above conditions, but that should not hinder us from advising the thing that in our opinion is right.

Dr. Lowry has gone very thoroughly into the history and physical examination of these cases with special reference to the heart and lungs. In my mind this is the big problem in obstetrics today and the thing that we who are doing obstetrics probably know the least about. If we take into consideration that a normal heart has a cardiac reserve of about 13 times that required for bodily comfort while at rest, and then we add the extra work of pregnancy with the definite change in the contour of the chest, a flaring out of the ribs or widening of the lower border and an upward displacement of the heart and a tendency for the arterial tension of systolic blood pressure to be lowered, and as we know, the response to effort is not so good during pregnancy, it seems reasonable then that we may assume that a part of this cardiac reserve must be used during justation. Now, if you add to this condition a history of rheumatism, acute tonsilitis, scarlet fever, influenza or any other acute affection which is followed by a murmur, be it presystolic, systolic or distolic, I think that this is a heart condition that should be watched very carefully.

We have been in the habit of making a diagnosis of mitral stenosis when we have a small, rapid, easily compressible pulse, low blood pressure, presystolic thrill and a presystolic murmur at the apex. I believe a woman with proper care will probably get by with these symptoms, but if we have in addition a slightly enlarged heart with breathlessness, poor response to effort, and persistent rales in the bases, then we may know that we have a myocardial involvement and are dealing with a serious condition.

Of course, aortic regurgitation with marked enlargement of the left ventricle, pulsating cartoids, corrigan pulse, high systolic and a low diastolic blood pressure is pathological and must be treated as such, yet, we have women with aortic regurgitation or a loud blowing diastolic over the aortic area without the marked symptoms mentioned above, who live through repeated pregnancies without apparent damage to the heart muscle. Therefore, we must sum these cases up as Dr. Lowry has already told you, and work out some method by which we can determine the myocardial efficiency or the cardiac reserve and treat our patients accordingly.

Active tuberculosis and pregnancy always has been and, as far as I can see in the future, always will be the unsolvable question to the obstetrician. I doubt seriously if every case of active pulmonary tuberculosis, even with a p. m. temperature, impaired resonance, broncho vesicular breathing with rules in one apex and tubercular bacilli in the sputum should be terminated, and I feel reasonably sure that if terminated at all it should be done before the end of the fourth month and preferably the third.

If I dared give you my personal opinion, I would divide these cases into three classes and treat them accordingly.

(1) Proven active tuberculosis, which is diagnosed early in pregnancy with anorexia, nausea, vomiting, loss of weight, and an apparent tendency of the tubercular process to spread. If within a reasonable time the above condition was not controlled by the proper care, I would advise immediate reference. Unfortunately, this represents the larger class of our cases.

(2) The same type of case, who does not develop this nausea, vomiting, etc., I would put to bed, treat her for the tuberculosis and hope to have her either improved and in a quiescent condition by term, and then deliver her under morphine, scopolamine and anesthesia with just as little effort on her part and with just as little shock as possible.

(3) The advanced case with a good appetite, where the pregnancy is not causing undue suffering, and in which a baby means everything, I would treat the tuberculosis in the hope of saving the baby at term.

Volumes have been written on arterial

hypertension and we are all on the lookout for this, but very little has been said of *hypotension*. I notice that a great percentage of my cases have a low blood pressure, and I am at a loss when I go to search for the cause. I saw a little clipping from one of the journals in which it states that these patients are anaemic, nervous, over-worried and have flabby muscles. Blood tension and muscle tensions are generally functions of each other. The way to correct these conditions would be by prescribing a gradual exercise, freedom from overwork and over-worry, outdoor life, fresh air and good food.

The x-ray is a wonderful help in determining multiple pregnancies, vertex, transverse or breech presentations, but in our hands it has been a complete failure in determining the exact location of the occipai.

Discussion: W. A. FOWLER, M. D., Oklahoma City, Okla.

This is an excellent and timely paper. If we take a careful general history and make a painstaking examination of all our patients, we will find the existence of chronic infections much more frequently than we would suppose.

In the case of tuberculosis for instance: as has been said, tubercular infection is practically universal and it is so curable that most people get well, never knowing of the existence of the infection, but in a rather high percentage of people, the infection does not entirely heal but remains in a mild low-grade form for months and frequently for years. The patient may live to an old age in this condition and die from some other cause.

Any unusual draught upon the patient's resistance may result in the flaring-up of the infection and the development of advanced tuberculosis. Not infrequently the loss of blood at the time of confinement; the shock from pain and trauma; the loss of sleep, and anxiety in caring for the baby; and nursing the baby, form just such a draught upon the patient's reserve as to result in the flaring-up of these quiescent processes. Hence the old saying: "Confinement is likely to run into consumption."

In the mild, low-grade form, it is detectable only by a careful history and physical examination, but if detected, the institution of very simple hygienic measures affords the most gratifying results, and these patients that might otherwise develop advanced tuberculosis become and continue in better health than ever before. In my own practice, this is one of the most gratifying things that I witness. A careful general history and physical examination requires about one hour's time, and I consider it one of the most valuable hours that I spend for my patient's welfare.

THE CARE OF PREMATURE INFANTS.*

A. L. SALMON, M. D.,
Oklahoma City, Okla.

In dealing with the subject of prematurity, we can well place in the same general class, those infants, who though born at full term, are immaturely developed, or are of such a condition physically, that their management might well come under the same rules as the baby prematurely born.

Strictly speaking, a premature infant is one born three weeks or more before the end of the normal gestation period.

Since our prognosis is in no small way influenced by the time of intra-uterine development, we will consider, briefly, a few points of value in determining the probable age of the premature. Of all means, the word of the mother as to the date of the last menstrual period, is perhaps the least reliable. Just as unreliable is the weight. We have full term babies born of syphilitic mothers or from mothers showing a high albuminuria, which might weigh even less than the product of a seven months pregnancy in a healthy woman.

The matter of determining the length of the intra-uterine development is difficult in any event, but the development of the osseous system, together with the body length of the infant will materially aid in this determination, and a consequent prognosis.

Griffith quotes the following measurements:

5½ months, length 11 to 13.4 inches.
6½ months, length 15 inches.
7½ months, length 15.4 to 16.1 inches.
8½ months, length 16.5 to 17.3 inches.

The Viability of prematures according to Griffith's table varies directly with the foetal age of the infant, the mortality being

*Read in Section on Pediatrics and Obstetrics, Thirtieth Annual Meeting, Oklahoma City, May 9-11, 1922.

80.4% in those born at the 6½ foetal month to 35.5% in those born at 8 foetal months. Only one exception in this does he show, and that is at 7½ foetal months his mortality is 30.1% or approximately 5% lss than those born at 8 foetal months. The chances of living based on the length of the infant show a direct increase varying from 21% in those 15.8 inches long to 58% in those 18.5 inches long.

In general our symptoms of prematurity might be set down as follows:

Low body temperature, maintained at normal with great difficulty.

The cry is feeble and scarcely audible and infrequent. There is a tendency for the infant to lie in a state of inactivity.

The development of subcutaneous fat is slight, giving the infant a wrinkied appearance and the drawn features of an aged person.

Respiration is feeble and intermittent and there is a marked tendency to recurrent attacks of cyanosis. The power to suck is often lacking and swallowing is difficult.

We might divide the care of premature infants into two general heads, *i. e.* (1) General care, with its attendant care of diseases peculiar to prematurity, and (2) Feeding.

GENERAL CARE.

Strict Asepsis—We must have in mind the fact that we are dealing with an infant whose resistance to infections is less protected, their vitality at a low ebb and all measures of strictest aseptic technic should be rigidly adhered to.

Maintenance of Body Temperature—Heat regulation and maintainance is perhaps one of the least developed functions of the premature infant, and if we are to have any success whatever in carrying these babies to a successful maturity, our very careful supervision must rest constantly on the baby's temperature. A premature whose temperature remains consistently low, in spite of our attempts to bring it up, is one whose vitality is at a low ebb, and one on whom our prognosis must consequently be grave.

To be able to maintain a normal body temperature necessitates proper equipment. Primarily our aim is to surround the infant with an even temperature ranging from 85 to 95 degrees (based on our needs) and at the same time permit of an abundance of fresh air. Together with this we must attempt to prevent the loss of bodily temperature by radiation.

This preservation of heat must be begun immediately at birth to forestall, if possible, the initial temperature drop.

If we are dealing with these infants in the home, we must improvise an equipment adequate to meet our needs. Perhaps this can be best accomplished by means of a clothes basket properly lined with pads and covered over about two-thirds of the way, the open one-third permitting of the entry of fresh air. The heat may be maintained by hot water bottles, electric pads, or by electric light lamps suspended into the basket. Our temperature can be regulated by means of the addition or removal of more lamps. Care must be taken to insure no burning of the infant, for very slight burns usually prove fatal.

The baby should be wrapped in some non-conductive material to aid in maintaining our body heat. A pad of cotton, perhaps, serves the purpose best and this should completely surround the baby.

Bathing should not be attempted at first, but the infant may be oiled with olive oil. All handling of the baby should be reduced to the minimum. The room temperature should be 72 to 74 degrees; however, it might be necessary to have this temperature as high as 80 degrees in cases where the body temperature is maintained with extreme difficulty.

Regarding incubators, in my opinion the one designed by Hess is perhaps the most efficacious and simple. The temperature is readily maintained at any degree by means of a themostatic regulation of a heating plate which heats water surrounded by copper walls. This particular type permits of the entrance of an abundance of fresh air, and has proven very efficient. It is simple and safe—two very important requisites.

Before taking up the matter of the feeding of these premature infants, we might briefly consider some of the diseases of which they are subject:

Hypothermia—This we have discussed previously.

Cyanosis—Perhaps no condition causes all concerned, as much anxiety as the frequent attacks of cyanosis, so often met with in this class of infants. We have many conditions which cause this and may be divided into two classes—*i. e.*, Non-Circulatory and Circulatory.

Non-Circulatory may embrace pulmonary atelectasis, sudden chilling, starvation, and

aspiratem of food or mucous. We occasionally see these infants in a cyanotic attack and no definite cause can be ascertained. There seems to be a cessation of respiration, which after the blood is heavily laden with carbon dioxide, is restimulated and respiration again takes place. The individual attacks may be overcome by gentle artificial respiration, oxygen or aromatic spirits of ammonia. In these cases, I employ small doses of atropine sulphate with marked benefits, if there is any tendency to a regurgitation, I use 1-2500 grain every three hours given in solution before a feeding. This dosage may be changed according to the effects.

Hyperpyrexia may be the result of faulty heating appliances or starvation.

Infections—We have mentioned before the susceptibility of premature infants to infections and when they occur the same general plans of handling infections in normal babies must be observed.

FEEDING.

In no class of infants, have we such a wide difference of opinion, in the feeding, as in the weak premature. All the difficulties that we might find in the care of many babies, present themselves, very often to the most uncomforting disturbance of our mental peace. If we are to keep down the mortality rate in these infants, we must recognize the utmost importance in breast milk. Formulae may form a very helpful adjuvant, but we should exhaust every means of supplying breast milk to these babies, before attempting formula feeding alone. There might arise circumstances which, might, in our judgment, be sufficient to make radical changes from a breast feeding, and when such an occasion does arise, we should unhesitatingly follow that course that seems best for the infant and the mother.

The loss of weight from birth is much more, proportionately, in a premature than in the normal full term infant. It is highly important that we attempt to minimize this initial weight loss. To do this feeding should be started early, and, as these infants take only small quantities, often. The majority of prematures are too weak to suck, consequently we must arrive at a means of feeding them. This can be accomplished by means of a medicine dropper, a Breck feeder or by catheter. Of these, I prefer the Breck feeder, which is nothing more than a tube, flanged on one end to admit of the attachment of a small nipple, with a compression tube on the other end. By means of gentle compression the milk or fluid is forced through the nipple. In this way we are, at the same time as giving baby fluid, teaching it to nurse. The Catheter feeding should be resorted to only in institutions where help is competent or by the physician himself.

No attempt should be made to give the baby food the first 12 hours. 1% lactose solution may be given at intervals, however, and balancing our dehydration by a fluid intake we cut down the initial weight loss. If possible to obtain, breast milk should be given in small quantities well diluted at the end of twelve hours. If the infant is able to nurse, it should be put to the mother's breast for three minutes at four-hour intervals, even though little or no fluid is obtained.

On the second day our feeding schedule should start, regularly night and day. Our interval of feedings are based largely on the condition of the infant—the smaller infants at intervals of two hours and the larger ones at three-hour intervals.

ARTIFICIAL AND SUPPLEMENTARY FEEDINGS.

We have mentioned before the great importance of breast milk in the feeding of prematures, however we are forced often to feed these babies artificially either wholly or in part. Whenever possible and even if other foods must form a supplemental feeding, it should be borne in mind that all the breast milk obtainable should be given, supplementing this with a formula.

It is impossible to form definite rules for feeding prematures. Each infant must be individually studied and fed accordingly.

Quantity and quality of food must be made to fit the individual case. We have, however, a few cardinal points which may serve as a basis for our arriving at a formula.

We can hardly expect a baby to gain unless it is receiving 40 to 45 calories per pound body weight, each twenty-four hours. Considering the small amount that we are able to give at a feeding, we can not do this unless we make our mixture too strong or the quantity too much. Furthermore, the baby should have one-sixth its body weight in fluids each twenty-four hours to combat dehydration. Consequently in order to approach these caloric requirements and fluid requirements we place our feeding period closer.

With a few days development our caloric requirements are more per pound body weight, but our stomach capacity increas-

ing, we might reach this by larger quantities as well as stronger dilutions.

The quantity to be given at a feeding is largely a determination by observation of each particular infant. Usually three to four drams is the maximum amount that can be comfortably taken the first two days. By the end of the second week 1½ ounces will probably be reached.

In selecting a food for artificial feeding, I have tried various ones—simple milk and water mixtures, whey mixtures, condensed milks, but have received my best results from "Dryco." It seems to be more readily digested by the weak infant and its preparation simple. Our mixture at first should be one teaspoonful to an ounce of water. In three days this may be increased to two teaspoons to one ounce of water and in a week a tablespoon to two ounces of water used, even though the baby does not take the full two ounces. Later the caloric value may be fulfilled, computing 16 calories per tablespoon (level) of Dryco, and the general rules of feeding carried out in these infants as full term infants.

Discussion: T. C. SANDERS, M. D., Shawnee, Okla.

I wish to commend Dr. Saloman for his paper, which was a good one. These premature babies are nearly always big problems as most of us have discovered in trying to handle them successfully. I would like to emphasize what I consider the three cardinal rules in the treatment of these cases:

(1) Looking closely to keeping up a certain body heat, and a proper regulation of room temperature.

(2) To use all hygienic measures necessary to protect the baby from any untoward external influence, and

(3) Frequent feedings.

Discussion: W. A. FOWLER, M. D., Oklahoma City.

From the standpoint of the obstetrician, I consider it of great importance in these cases to avoid the rapid loss of body heat which comes from the evaporation of the amniotic fluid on the baby's body by wrapping the baby as soon as it is born in a warm bath towel.

In every premature birth, a sterile bath towel should be kept warm for this purpose, as the little patient can poorly sustain the shock which results if this point is neglected.

In the way of nursery administration, the baby's gain or loss of weight can be ascertained without disturbing the patient by weighing the blanket, baby and all in the same amount of covers, and so forth.

PUERPERAL SEPSIS.

W. A. FOWLER, M. D., F. A. C. S.,

From the Department of Obstetrics, University of Oklahoma, School of Medicine, Oklahoma City, Oklahoma.

Puerperal Sepsis, "a prosaic and threadbare subject," you might say. Truly it is, but as long as approximately 10,000 women in the United States are dying each year, and many times this number are being subjected to life-long morbidity from this cause, which is nearly always preventable —these facts ought to be a sufficient apology for our frequently taking counsel together in the effort to lessen its frequency and ameliorate its results.

That obstetrical practice has not kept pace with the advancement of general surgery is probably due to several factors. The aseptic conduct of labor represents a difficult problem in technic. The rather high natural resistance of the tissues of the lower part of the birth canal permits frequent violations of asepsis with only a small percentage of infection, and the milder infections are easily overlooked by the casual observer, tending to give a false sense of immunity and induce carelessness in technic. The present wholly inadequate obstetrical fees discourage the expenditure of time and money in post-graduate study.

Finally, the vast majority of confinements are conducted by men who do not undertake any other class of aseptic surgery and, therefore, have not developed a considerable degree of perfection in technic.

We should together endeavor in every possible way to counteract these retarding influences and, in the meantime, go as far as possible in simplifying the technic in freer blood-supply and quiescence of the organ favoring the formation of the leucocitic wall of infiltration, the chief bulwark of defense. The giving of ergot and pituitary extract by increasing the contractions of the uterus violates one of the first principles of medicine—that the best treatment of inflammation is rest, especially rest of the inflamed organ. We are reminded of

the fact that not so many years ago, surgeons were giving various cathartics to get rid of the tympanites in peritonitis. A good rule to follow when in doubt, is to take nature's cue.

Nourishment—In the absence of peritonitis, the patient should be given as much easily digested, nourishing food as can be assimilated, and an abundance of liquids. This should consist of such foods as milk, cream, egg-malted-milk, cocoa and soft cereals.

Specific Treatment—Most clinicians have abandoned the use of sera as useless.[4]

Curettage—In view of the well-known pathology in these cases and the emphatic teaching in this regard, it is strange that it would seem necessary to mention the curett in the discussion of the treatment of puerperal sepsis. Let us say again, however, that the curett has no place in the treatment of puerperal sepsis. *It is damnable and has probably killed more women than all other things in this connection combined.*

Peritonitis, indicated by pain, rigidity of the abdominal muscles, vomiting, and so forth, should be treated by first, the *Fowler position;* second, *morphine to complete comfort and relaxation;* third, *nothing at all by mouth;* and fourth, *liquids by rectum, intravenously* or *sub-cutaneously.*

Thrombophlebitis should be treated by keeping the part absolutely quiet and giving the clot an opportunity to organize. The danger of embolism must not be forgotten. In the case of milk-leg, the limb is kept elevated and warm and undisturbed. The treatment in these cases is continued for ten days or two weeks after all symptoms have disappeared.

Abscesses should be incised and drained whenever present. In making a cul de sac drain, it is important to merely steady the cervix with the tenaculum and incise near the cervix, using a sharp knife until the pus flows, to avoid rupturing the pus sac.

I recently heard a case reported in which a cul de sac abscess was opened with the point of scissors. The patient developed peritonitis and died within twenty-four hours.

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Discussion: D. F. STOUGH, M. D., Geary, Oklahoma.

Mr. Chairman and Fellow Physicians: It may seem presumptuous for me, a general practitioner, to attempt to discuss such an able paper, prepared by an obstetrician, who devotes his whole work to this specialty. That our meetings of the State Medical Society may be a success, and to lighten the labors of those who get up the program, it is the duty of the rank and file to help as far as they can by cheerfully doing the work assigned to them, so I offer no apology for the part I am to take. The paper was ably prepared and not too technical, in fact, just such a paper as is needed by the general physician, for it refreshes our minds upon one of the most important problems that confronts us. If only a thousand of our mothers were sacrificed annually, there would be no need of the writer making an apology. It is not necessary to say that I agree with Dr. Fowler in all that he has said about the need of asepsis, and the general outline of the treatment he has laid down. One condition has been omitted, which is one of our danger signals. When we find the genital tract dry and hot, we have a far greater danger of sepsis, and this condition is often brought about by the too free use of the hands in making repeated vaginal examinations, by manual dilating the cervix and thinning out the perineum. Even the use of a douche at the beginning of labor, by washing away the natural secretions, tends to the same condition. There are cases where I would resort to uterine irrigations, but only in selected desperate cases. In the Paris Journal of Obstetrics and Gynecology for January, 1922, Anderodias reports 152 cases treated by irrigations, using Carrol-Dakin's Solution every two to three hours. He had a morbidity of 8½%. I believe that if all cases of puerperal fever were reported, the number would be larger than usually supposed, but owing to danger of undeserved criticism from both the laity and competing physicians, many physicians are slow to confess that they ever have such complications. In over 800 deliveries, I have had four bad infections, but fortunately all lived through without any lasting complications. Dr. Fowler saw one of the women with me. I might prove an alibi in three of the cases. I will mention them to illustrate some of the difficulties with which we in the country must contend. One was being cared for by a woman with an infected finger, commonly called a "run-around." Another had a small boy

with a freely discharging abscess on his leg, and within two days after her confinement, she would twice daily get the little boy on the bed and dress his leg. In the remaining case, when they ran short of cloths, they washed out those already used, in warm water, without any attempt at sterilizing and used them a second time. The last case followed a forceps delivery within three days, while the other three developed from the seventh to the ninth day. It is seldom that we can have the patient properly prepared. Too many use a douche, too few use the enema. It is safe to say that in 60% of the cases the downcoming head forces fecal matter before it, and it is a wonder to me that we do not have more infections than we do. Lately I have seen some one quoted as saying that in about 90% of the cases the infective agent is already present in the vagina. (I cannot recall the name.) If he is correct it behooves us that we do not by carelessness push it into the uterus, and cause an active infection. I usually find I must fill the place of dirty nurse, clean nurse, anesthetist as well as the obstetrician. We trust that this condition can be gradually improved by better education of the laity, or probably by county, state, or national aid furnishing a trained nurse, or even hos-obstetrical practice and in clarifying the principles in the treatment of sepsis.

ETIOLOGY.

Puerperal sepsis is due to the inoculation of the puerperal wound with any pathogenic bacteria, and their growth and extension from that point. The hands and instruments of the physician are still the usual carriers of the infection. In some cases, sexual intercourse, the vaginal douche, self-examination or the tub-bath just prior to or after the beginning of labor are responsible. It is pretty certainly true, also, that in other cases, the bacteria may be borne through the blood-stream from infection elsewhere in the body. [1] [2] Poor general condition, hemorrhage, prolonged, difficult labor and lacerations are pre-disposing factors. While the fact should not cause us to relax our vigilance, it is important to remember today when the laity are beginning to assume that all infections are due to the carelessness or incompetence of the doctor, that there are some cases of sepsis where the physician is in no way responsible.

PATHOLOGY.

The lesions of puerperal sepsis are legion, varying from inflammation only in immediate proximity to the infected wound to endometritis, metritis, pelvic cellulitis, peritonitis, thrombophlebitis and embolism. The bacteria may be carried in the blood-stream and produce lesions in any part of the body such as endocarditis, meningitis, arthritis, and so forth.

Wherever the bacteria lodge, there is an effort on the part of nature to wall off the area by a zone of leucocytic infiltration. The prognosis depends very largely upon the degree of success in this attmpt. This is an important point to remember in treatment.

DIAGNOSIS.

The diagnosis depends upon the elevation of the temperature and pulse, pain and tenderness in the region involved, altered lochia and increase in the white blood corpuscles and polys. All suspected cases should have a careful examination, especially of the throat, breasts, chest, abdomen and kidney regions to eliminate other possible explanation of the temperature and pulse. Malaria and typhoid should be ruled out by the blood examination and the clinical signs. Repeated chills and a very fluctuating temperature are indicative of thrombophlebitis; if unaccompanied by cellulitis, there are usually few local symptoms in such cases if confined to the pelvis. Abscess is indicated by a continuation of the symptoms, with a mass, tenderness and fluctuation. Polak[3] found that only seven per cent of cases with a definite exudate resulted in suppuration and required incision and drainage.

TREATMENT.

Prophylaxis—The patient's general resistance should be built up by the proper hygiene in pregnancy. Definite instructions should be given to that end and she should be instructed as to the danger from sexual intercourse, douches, tub-baths or examinations during the last month or six weeks of pregnancy. Focal infections should be cleared up if possible. The patient should be given sufficient rest and nourishment during labor if it is prolonged.

The doctor who attends confinement cases should avoid attending septic cases, if possible. If this is not possible, he should carefully avoid contaminating his hands or clothing.

It should go without saying that the same precautions should be exercised as in any other aseptic procedure in regard to the

hands, sterile goods, solutions, basins and instruments. It should be remembered that touching the outside of the glove with the ungloved hand, or touching the perineum is poor technic. A glove so contaminated should be changed. Merely passing it through an antiseptic solution is not sufficient.

The general practitioner will do well not to get caught in the furor for the various pet measures for interference in labor such as podalic version, manual dilation of the cervix, ironing out the perineum, and the frequent use of forceps and episiotomy. Some of these procedures in the hands of experts, aided by every facility for the highest quality of work, may add something to the refinement of the work, but for the general practitioner, intelligent prenatal care whenever possible, a decided conservatism in the management of labor, a more careful study of the art of the fewer necessary things, a conscientious endeavor to attain the highest possible standard of asepsis in these procedures and unfailing patience will accomplish much better results. Vaginal examinations should be abstained from as much as possible. With experience, abdominal and rectal examinations will suffice in perhaps ninety per cent of cases. In the repair of lacerations in the home, I would advise the free use of alcohol on the wound surfaces before closure.

Active treatment consists of rest, food and fresh air, local treatment being limited to removal of sutures if present, and treatment of raw surfaces with a twenty per cent argyrol or twelve and a half per cent silver nitrate solution.

Rest and Fresh Air—The patient is put in a well-lighted, well-ventilated room, or preferably on a porch, the head of the bed being elevated to promote drainage. A good nurse is placed in charge—no company—quiet is maintained; the patient is lifted on and off the bedpan and is fed by the nurse.

No vaginal examination is made in the acute stage and only the gentlest palpation of the abdomen is permissible, and this as seldom as is compatible with the proper management of the case. The bromides for restlessness or sleeplessness, and morhpine for pain are given as needed. The patient is encouraged to lie still and is disturbed as little as possible.

An ice-bag is placed over the lower abdomen. Most authorities give ergot and some give pituitary extract on the theory that firm contraction of the uterus tends to prevent bacterial invasion by closing the lymph and blood-vessels. [3]I do not believe this is correct. It seems unreasonable to argue that these channels are closed enough to form an effective barrier against organisms so small as bacteria. I believe that the sub-involution of the uterus which we see in these cases represents Nature's efforts to put the infected uterus to rest, the pital facilities for all prospective mothers. The soft tissues may be macerated by pressure in long drawn out cases and make a fruitful field for infection, and I do not hesitate to use small doses of petruitin or the forceps, and it seems to me that I have saved the lives of babies, lessened the danger to the mother, as well as saved her long hours of suffering. After delivery, as Dr. Fowler has said, we want rest, no visitors, and the best of care. I often tell the attendants that the more they neglect the mother the better she will get along. I then explain that by neglect, I mean that they should not be too busy trying to do things for their patient. In conclusion I will say, that I would rather trust my wife with a good sensible woman, who would not pretend to know anything but to try "watchful waiting," than with a meddlesome doctor, who kept himself busy with manual dilating of the cervix, thinning out the perineum, and making almost constant examinations per vaginum; use petruitin at the first showing of the pains, and forceps as soon as they can be applied. Let our motto be: "Don't Meddle; Don't Touch."

Discussion: DR. J. S. HARTFORD, Oklahoma City.

Dr. Fowler, by his continuous teaching and splendid example has raised the standard of treating obstetrics in this city. The raising of the standards here are gradually spreading out over the state until the care of mothers is being placed on a much higher scale. I agree with the essayist in the immediate care of lacerations which occur at the time of labor. If we are careful to remove ragged edges and traumatized tissue and bring together the torn structure carefully, the result obtained will be very satisfactory. I wish to call attention to the fact that localization in puerperal sepsis is usually in the broad ligaments and it is not until the abscessed formation is far advanced that the mass itself can be reached by cul de sac drainage.

Discussion: J. WINTER BROWN, M. D., Tulsa, Okla.

I certainly have enjoyed listening to Dr. Fowler's paper, which was very well written and each point well discussed. However, I should like to emphasize prophylactic measures a little more. I always have my own sterile gown, leggings, sheets, cord dressings and towels with me, and do not drape patient until just a few minutes before baby is to be born, therefore have as sterile a field as possible.

Doctor mentioned having some old, clean rags for this work. In this day and age when we can have almost anything we want and most of us have cars, I see no reason for depending on old rags prepared by the patient. We may as well have good things to work with. Would any worth-while surgeon depend on old rags; and I consider every confinement just as important, or a little more so, than most surgical cases. I venture that there are few if any of us who do not have access to a good autoclave.

Some doctor mentioned that he had to be the anesthetist, clean and dirty nurse, as well as doctor. Now honest, men, I see no use for this, except in extreme cases. There are nearly always several neighbor women around, and I have never had any trouble in teaching one of them to open my packages of sterile things as I need them, and I have confined women in all kinds of places, not only in this country but in China. I believe the main trouble is with us, in that we do not have the things prepared to work with.

PROCEEDINGS OF THE OKLAHOMA CITY CLINIC "ROUND TABLE" WESLEY HOSPITAL.

RENAL DIABETES.

WM. H. BAILEY, M. D.

Until a few years ago, when blood chemistry began to be more extensively used, the existence of a renal diabetes was not admitted. Any patient having a glycosuria was considered a diabetic. Then there was a period of years in which these cases with low sugar tolerance, or low kidney threshold for sugar, were thought to be incipient cases of true diabetes. Now most authorities have accepted the existence of renal diabetes as a definite entity. Blood chemical tests have disclosed the fact that occasionally we will find a patient with sugar in the urine that does not have an increased sugar content of the blood. These cases are similar to those of alimentary, or physiological, diabetes in that they do not show a constant glycosuria, the sugar only appearing in the urine at irregular times.

A case of what we diagnosed as a simple renal diabetes presented himself to the laboratory a few weeks ago. The patient was a middle-aged professional man, who was leading an active business life. His health had always been fairly good except that a few years ago he had considerable trouble with a sub-acute rheumatism. A focus of infection was searched for and several teeth and other suspicious foci treated. The rheumatism improved but would give some slight trouble at times. For the last couple of weeks the patient had been feeling a little below normal and would tire out easily. As a matter of routine his urine was examined. It was found to contain a fair amount of sugar. This particular specimen happened to have been collected in the laboratory about an hour after breakfast. The patient was naturally concerned about this result, it being the first time that sugar had been discovered in his urine. About noon he went to another laboratory and voided another specimen and had it examined. No sugar was found. The next morning specimen was divided into two portions and each laboratory given one to examine. Sugar was reported by both.

We then made a blood chemical test and found his blood to be 0.067 which is well within the limits of normal.

With a slight restriction of the diet the sugar remained absent from the urine at all times of day. As there were never at any time any clinical symptoms of diabetes, as the blood sugar was not increased and as the sugar in the urine was not a constant finding, we came to the conclusion that this was a case of renal diabetes.

ABERRANT SPLEEN.

A. L. BLESH, M. D.

A woman 30 years of age presented herself to the Clinic complaining of soreness and continuous though moderate pain in the right lower abdominal quadrant. This syndrone had been diagnosed as chronic catarrhal appendicitis by every physician whom she consulted. There existed no history of any attacks of sufficient severity to put her to bed. Patient made the statement that the ingestion of food increased

the pain and caused a tender mass palpable to herself to appear in the lower abdominal quadrant. She had never had elevation of temperature or nausea. The condition had existed from her earliest memory. Exercise markedly increased her discomfort. The urinary function had never been disturbed.

The clinical examination was entirely negative except for the tenderness mentioned above and a tender, smooth, slightly movable mass, round in outline and semispherical in shape which was located in the appendiceal region. Blood count and uranalysis were negative.

Diagnosis: Speaking for appendicitis were the symptoms of tenderness and a mass located in the appendiceal region. Against appendicitis, as the cause of her symptoms, were:

1. Absence of distinct attacks.
2. Absence of nausea.
3. Absence of fever at all times (temperature had been frequently taken).
4. Absence of Leucocytosis.
5. Variability in size of mass, movability of same and influence of food ingestion on its size and on the degree of pain.

Neoplasm or cecum could not be ignored. Malignant neoplasm, however, was practically eliminated by time element. Benign tumor, however, might well give rise to above syndrome, the increased intestinal peristalsis incident to food stimulation elevating a portion of cecum containing a benign neoplasm and making it more easily palpable as well as increasing pain. We were unable to eliminate benign tumor of cecum either clinically or by x-ray.

Exploratory operation advised and accepted. Median lower incision revealed a semi-spherical mass of the size of a split orange, ligamentously united to ileo-cecal mesentery in ileo-cecal angle, the surgical removal of which was easy. General exploration of abdoment and pelvis was negative. Microscopic examination of specimen showed it to be normal splenic tissue which it also microscopically resembled. Relief complete and permanent.

Remarks: Known to be an aberrant spleen because of its location and the fact that the spleen was "at home" and normal. Why such an aberrant spleen showing normal histology should be painful can be explained only on the hypothesis that in its unsheltered location it was exposed to unaccustomed trauma.

As to the frequency of this anomaly I have no definite data at hand. An incomplete search of the literature revealed no case, though it has no doubt occurred in the hands of other surgeons.

The origin as in all aberrant structures goes back to the embryology of the gland. The spleen is of mesoblastic origin as shown upon the peritoneum which appears as a thickening of the dorsal meso-gastrin about the fifth week and lies in close relationship with the stomach. This anlage is not far from the primitive colonic bud and in the embryonic migration of the colon from left to right it is possible that some of the colomic epithelium from which the spleen is developed may be carried along with it. The fact that this aberrant spleen was found at the angle formed by the ileum and ascending colon in just the location one would expect it to be following colonic rotation, speaks for this origin.

FAR AHEAD ON HOSPITAL WORK AT MUSKOGEE.

The Manhattan Construction company is four weeks ahead of schedule in the construction of the Oklahoma Soldiers' Memorial hospital on Honor Heights.

It is also several weeks ahead on the municipal hospital to the north of the state building. The city hospital was started three weeks after the larger building, but such good time is being made that the relative percentage of work done is practically the same as on the state hospital.

Foundations now are being put in for the eight smaller buildings that will complete the establishment for the care of Oklahoma's sick and wounded veterans. Material is on the ground for these buildings which are a vocational training building, a nurses home, a medical officer's residence and five cottages for attendants.

NEW AND NONOFFICIAL REMEDIES.

During July the following articles were accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion in New and Nonofficial Remedies:

The Abbott Laboratories: Neocinchophen-Abbott Tablets 5 grains.

Louis Hoos: Hoos Albumin Milk.

Mallinckrodt Chemical Works: Benzyl Benzoate—M. C. W.

THE MUSKOGEE SOLDIERS' HOSPITAL.

Much publicity has recently been given in the press about the hospitalization of insane negro soldiers in the new hospital being constructed at Muskogee. After investigation the report was found to be false. Tuskegee, Alabama, through its sounding like Muskogee being mistaken therefor.

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Articles sent this Journal for publication and all those read at the annual meetings of the State Association are the sole property of this Journal. The Journal relies on each individual contributor's strict adherence to this well-known rule of medical journalism. In the event an article sent this Journal for publication is published before appearance in the Journal, the manuscript will be returned to the writer.

Failure to receive the Journal should call for immediate notification of the editor, 508 Barnes Building, Muskogee, Okla.

Local news of possible interest to the medical profession, notes on removals, changes in address, deaths and weddings will be gratefully received.

Advertising of articles, drugs or compounds unapproved by the Council on Pharmacy of the A. M. A., will not be accepted.

Advertising rates will be supplied on application. It is suggested that wherever possible members of the State Association should patronize our advertisers in preference to others as a matter of fair reciprocity.

EDITORIAL

SHALL WE SURRENDER TO GERMANY?

It seems we are about to lose the most important advantage gained by our participation in the World's War. By the action of our Government we have been freed from paying tribute to the subsidized and protected German dye and chemical monopoly. The most important act in securing this result was the sale by the Alien Property Custodian of 4700 patents to the Chemical Foundation, Inc. The Foundation granted licenses to any firm that could show its reliability to manufacture any of these products. The result has been that we now have an American dye and chemical industry whose products are sufficient for our needs and whose quality is equal or in many instances superior to the German product.

This result has not been accomplished as easily as it sounds, for in many instances the patents as recorded were inadequate or non-workable and considerable research was necessary before the products could be successfully manufactured. Since the armistice the greatest aid to this industry has been the embargo on foreign dyes. As is generally known most of the synthetic drugs used in medicines are byproducts obtained in the manufacture of dyes from coal tar and they can be produced successfully and economically only in connection with dye production. The embargo on dyes is about to expire and the Senate has refused to extend the time. The proposed tariff bill contains duties on imported dyes but American manufacturers claim that no amount of tariff will protect them in competition with the Germans. They say that with the high efficiency of the German factories, the great inequality of the money of the two countries, making comparative costs of labor and material only a small fraction of such costs here, and the fact that the industry is subsidized and protected by the German Government, makes competition impossible. The American manufacturers would in a very short time be compelled to go out of business and then we could expect a return of the high prices charged for the German products before the war.

Then in case Germany went to war with any nation that would interfere with her ocean commerce we would be confronted with the same condition we faced in 1914. It would not be necessary for us to be at war with Germany for this to occur for it was only after we declared war and passed the Trading With the Enemy Act that we obtained any relief.

The memories of the people, the press and our lawmakers are notoriously short. During the war when the lack of dyes and necessaries was acutely felt the newspapers devoted pages of space and the halls of Congress sounded with long winded speeches deploring the situation and urging American manufacturers to build up a home industry to care for our wants. Under promise that they would be protected from unfair German competition after the war our manufacturers responded to the call and spent their time and money in building up the industry to where it fully meets the needs of the country.

Now the Senate refuses to extend the

time of the embargo and on top of this comes an executive order for the Chemical Foundation to return the patents to their former owners. And we have scarcely a protest in Congress and only rarely do we see a paragraph in a newspaper on this subject. Their columns are devoted to discussions of strikes, the latest scandal, and some flapper's opinion of bobbed hair, while our citizens stand to lose their money and business and our sick will be left to the tender mercies of the drug monopoly of our late enemies.

P. P. NESBITT.

THE PERILS OF THE SUMMER VACATION.

In this day of steam, electricity and gasoline, and the all-consuming desire to go from HERE to SOMEWHERE ELSE in search of the pot of gold at the rainbow's end it is well to remember that sometimes HOME is the best health resort, and that, if we find it otherwise. it may not be so much because of WHERE we live as HOW we live.

We of the Southern and Central states, viewing the annual summer hegira to Canada, Colorado, California, Maine, Massachusetts and Minnesota, and other regions farther and nearer, where the breezes are reported to be cooler, the scenery more beautiful and climate more salubrious than in the dreary spot where we are doomed to sweat and toil, are sometimes prone to forget what those conditions are which make for low morbidity and mortality rates. The physician in active practice in our section of the country is sure, however, to have his memory refreshed during the summer and early fall by the incidence of disease among the returning pilgrims. He sees the typhoid fever contracted at the purling brook, or at the foot of the gloriously picturesque, but infected, watershed; or transferred to the picnic table by the fly wafted on the boasted balmy breeze; or the malaria acquired at the camp on the lush meadow by the tree framed lake; or the dysenteric infant who quaffed the milk at the wayside farm, or had his thirst assuaged at the purling spring up the forest path, or at the water cooler up the aisle of the passenger coach: or the illness that is a legacy of the swimming hole that was more beautiful than good. True he can not trace each malady to its specific course. but behind each he sees some slip in sanitation which shows that even the great outdoors, once contaminated by the presence of man, may lose its former benignant aspect, and visit the ills of the flesh on the incautious or the ignorant.

It has been reliably and credibly asserted that the healthiest dwelling place is a large town or small city, where there is intelligent sanitation, and that geographical location has little to do with the case. Such a place has a safe water supply, efficient surface drainage and sewage system, dairy inspection and garbage removal, and perhaps a considerable proportion of the streets paved. If one lives in such a town, or can be assured of similar protection, has a housekeeper who has a knowledge of the choice and preparation of a summer dietary, appreciates the value of swatters and fly screens, recognizes the bath tub or shower as the only indispensible swimming pool, and has access to the breezes of nature or to those coaxed by an electric fan, one may well hesitate before permitting his family, especially if it contains children, to go elsewhere with the idea of conserving or improving health. And one may well ask, if, in addition to the advantage enumerated above, there can be duplicated the opportunity for resting and dressing as suits one's convenience. If not, and health is the quest, HOME is the best place to find it.

Editorial Notes—Personal and General

Dr. C. Stevens, Wilson, has moved to Madill.

Dr. F. Leroy Carson, Shawnee, has motored to Colorado to spend his vacation.

Dr. J. W. Adams, Chandler, leaves this month for Detroit and points in Michigan.

Dr. C. P. Mitchell, Lindsay, spent several weeks in Mineral Wells, Texas, the past month.

Dr. J. H. Plunkett, formerly of Porum, has located in Wagoner, where he will practice medicine.

Dr. B. W. Ralston has returned to Lindsay after an absence of seven months in Hot Springs and St. Louis.

Dr. A. S. Hagood, Durant, seems to have grabbed the honors as the best tomato grower of Bryan County.

Dr. J. M. Bonham, Hobart, motored this week to Tucumcari, N. M., where he will spend a few weeks' vacation.

Dr. R. E. L. Rhodes, Tulsa, motored to Rochester, Minn., for a fortnight's stay, after which he will tour California, Washington and Oregon, returning in October.

Dr. Marshall W. Weir, Oklahima City, is motoring to Rochester, Minn., where he will spend several weeks' vacation.

Dr. J. B. Hampton, Commerce, returned recently from a motor trip into the Lower Rio Grande Valley in Southern Texas.

Dr. A. J. Stephenson, Lawton, has returned from his vacation spent motoring through Yellowstone Park and to Salt Lake City.

Dr. Allen Lowry, Blackwell, who has been suffering with internal trouble, has placed himself in the care of Dr. Hurstler of Halstead, Kansas.

Pawhuska' City Hospital. The city of Pawhuska is now building a municipal hospital to cost $65,000, to be completed about September 15th.

Dr. and Mrs. E. F. Milligan, Geary, and the children, Donald and Mary Jane, accompanied by Dale Truman, returned from Colorado this week. They had been away over two weeks.

Dr Chas. T. Schrader, Oklahoma City, spent his vacation near Noel, Mo. He returns telling of wonderful fishing in the Cowskin river and claiming the largest bass caught there this season.

Dr. G. M. Manor, Columbia, Mo., who recently formed a professional association with Dr. W. L. Bonnell, Chickasha, is caring for all of Dr. Bonnell's practice while he is on a month's vacation in New Mexico.

PIONEER DOCTOR IS CALLED HOME.

Dr. Vance, Former Head of Medical Association, Dies Here.

After nearly a half-century of usefulness in the practice of medicine, twenty years of which he spent in Checotah, Dr. Bascum James Vance died at the P. and S. hospital, Muskogee, at 2 o'clock, July 27th.

Pneumonia, developing out of an illness of a year's standing, resulted in the death of the pioneer physician. Dr. Vance was at one time president of the Oklahoma State Medical Society and was very active in the work of this association and in medical affairs in McIntosh county.

Born in Boone county, Ark., 69 years ago, Dr. Vance received his medical education in Vanderbilt University and Chicago Polyclinic. He practiced in Arkansas for many years, but removed to Checotah twenty years ago. He at once assumed a position of prominence in the north McIntosh county town, and was widely known in Masonic circles as well as in civic matters.

Dr. Vance is survived by Mrs. Vance and seven children, who are: H. M. Vance, Tahlequah, Okla.; Mrs. Lee Kirby, Harrison, Ark.; J. M. Vance, Muskogee; Mrs. Walter Hensley, Mrs. Waldo McIntosh and Mrs. Hugh Gladden, Checotah; Mrs. Tom Reed, Austin, Texas.—Times-Democrat, July 27, 1922, Muskogee, Okla.

ARMY MEDICAL DEPARTMENT UNITS.

Extract from Army and Navy Register, July 1, 1922:

"The Surgeon General of the Army has been authorized to proceed with the organization, with reserve personnel being enrolled under branch assignment of the following medical units. Three Army medical headquarters, 36 surgical hospitals, 45 evacutory hospitals, 3 convalescent hospitals, 3 Army medical laboratories, 9 Army medical supply depots, 12 hospital center headquarters, 165 general hospitals, 12 convalescent camps, 37 hospital trains, 2 intermediate medical supply depots, 24 station hospitals, 2 communication zone medical laboratories, 3 air service physical examination units, 2 section medical headquarters, 1 general medical laboratory, 5 general dispensaries, 1 specialists' group, and 1 general medical headquarters. The majority of these units will be organized at medical schools, hospitals, and professional centers throughout the country. Many of the units saw service during the World War and are preparing to reorganize and perpetuate their old designations as provided for in the act of June 4, 1920. Members of the reserve corps are now manifesting considerable enthusiasm with reference to the proposed organization of these units. As soon as properly organized by the surgeon general they will be turned over to the control of corps area commanders within whose territory they are located. It was preparedness work of this character and the hearty co-operation received from members of the civil professions that enabled the medical department to operate effectively with such promptness upon our entrance into the war, these base hospital units being the first organizations of the Army to embark for service overseas."

ROBERT B. HILL,
Major, M. C., U. S. A.

PRESSURE ULNAR PALSY.

In a case of ostearthritis of the upper lumbar spine a plaster of paris body jacket (not including the shoulders) was applied. This was removed after six weeks, and another was applied. After having worn the second cast with no untoward effects for three weeks, the patient's right hand became weak and numb. She had no feeling in the thumb and fourth and fifth fingers. She was in the habit of sleeping with the arms over the head, and awakened one morning with the edge of the cast pressing against her right arm, i. e., she was lying on that arm. When she was seen the next morning, a typical ulnar pressure palsy was discovered. The cast was trimmed under the right axilla, and the patient referred for massage, active and passive movements, and re-education. Two months from the date of onset of the trouble, she was completely recovered. Philip Lewin, Chicago (Journal A. M. A., April 15, 1922), states that he has not been able to find a similar case recorded in the literature.

RERMATITIS HERPETIFORMIS IN CHILDREN.

Two cases are reported by Edward A. Oliver and Charles J. Eldridge, Chicago (Journal A. M. A., April 1, 1922). One of the patients was only 18 months of age; the other was 10 years old. Fowler's solution caused the eruption to disappear.

CONTINUED DEMONSTRATIONS IN THE CONTROL OF MALARIA.

"The primary object of the International Health Board and the allied Federal and state health organizations in undertaking malaria work in 1916 was to prove to small towns, villages, and rural communities that malaria can be practically eradicated at per capita costs which make elimination cheaper than harboring the disease."

"The campaigns were based upon two scientific facts: (a) malaria can be communicated only by the bite of the Anopheles mosquito, and (b) almost all sufferers from malaria can be cured by the administration of quinine in proper doses over a sufficient period of time. The prevention of mosquito breeding by drainage, by surface oiling of standing water, by the use of fish which eat the mosquito larvae; the protection of people by screening beds and houses, by removal of houses from the vicinity of breeding places, by the killing of adult mosquitoes; the use of quinine when mosquito control is too difficult, have been tried in various combinations, most of them with a success that has been strikingly convincing.

"For the past two years demonstrations have been carried on in conjunction with local authorities, state boards of health, and the United States Public Health Service. During 1921 in nine southern states new demonstrations were undertaken in 26 localities, while supervision of work previously inaugurated was continued in 35 places in ten states. Reports indicate that substantial reductions in the prevalence of the disease were effected at an average per capita cost of $1.01. Reductions secured by demonstrations made in 1920 were maintained at an average cost of 25 cents per capita.

"Investigations as to the adaptation of anti-malaria measures to tropical conditions were started in Port Rico and Nicaragua. Preliminary studies were also made in Argentina and elsewhere to discover variations in conditions to be dealt with. Experiments in treatment by quinine were concluded in Sunflower county, Mississippi, where by experimental methods a standard dose of this drug calculated to protect individuals had previously been worked out and has now been made available to the public through commercial channels at a cost of $1.95.

"In addition to continued investigations in various methods of mosquito control, including the use of fish, surveys were undertaken in two regions in the South to determine the prevalence of malaria and the part which it plays in impairing the health and efficiency of a given population. One report for an area in Southeast Missouri was completed and confirms the belief held by many that this disease, although less severe than in former years, is still a crippling malady which not only impairs vitality, increases suffering, depresses the community spirit, but adds directly and substantially to the death rate."

THE RESPONSIBILITY OF THE PUBLIC.

"The cry is frequently heard that this government service or that 'must be taken out of politics.' In one sense this is absolutely essential to efficiency. A public function which calls for technical expertness is hopelessly handicapped if it be treated as the spoils of a political boss or of a victorious party machine. To no public service does this apply more strikingly than to a department of health. The moment efforts are made to influence appointments, promotions, salaries, policies, law enforcement, by political pressure for individual or party ends the demoralization of the work begins. The degree to which such things are possible is an index of the intelligence, spirit, and character of any community.

"Yet in another, the original, meaning of politics public health ought to be always in politics. The safeguarding of the health of the people is a community task and responsibility. It is a proper and important subject for public attention and discussion. Officials are in duty bound to present their programs and budgets to boards, councils, and the public and to give convincing reasons for the measures and expenditures that are proposed. One of the essential qualifications of a successful health officer is the ability to explain his policies so as to win support for them."

"But obviously the busy health officer and his assistants cannot assume sole or even the chief responsibility for creating and maintaining the popular understanding and backing essential to the success of modern and progressive health policies. Elected officials, public-spirited private citizens, the schools, public and private, the press, chambers of commerce, women's clubs, social agencies, voluntary health associations are the organs by which counties, towns, cities, and states should be kept constantly conscious of health measures until these have become a part of the accepted and well-administered routine of daily life. Then vigilance becomes the price of safe-guarding what has been achieved and the means of supporting new plans for further advance. In the long run representative government a community will get the kind of health administration that it deserves."

AID TO HEALTH TRAINING AT HOME AND ABROAD.

Contributions were made during 1921 to various institutions and government departments in the United States and in foreign countries for the Furtherance of public health training.

To New York University the sum of $35,000 was given to aid in establishing a clinic for the teaching of personal, infant, school and industrial hygiene, and for the remodeling and equipping of a building as a museum to display models and other exhibits in sanitation, ventilation, industrial hygiene, and housing.

"One essential kind of training takes the form already mentioned of special intensive courses for persons who are actually engaged in health work. State departments of health and the United States Public Health Service are conducting institutes to meet this need. In several cases the Foundation through the International Health Board gave funds to supplement the appropriations of state boards of health for institute teaching. A small contribution was also made to a state department which is testing the posibilities of correspondence instruction for local health officers and their staffs.

"The Pasteur Institute in Paris as a result of the war was seriously threatened not only with curtailment of its activities, but with a lack of new workers who should receive training, engage in research, and thus be prepared gradually to assume responsibility for the future of this world-famous center and its several branches. To supply fellowships for a transition period and to help defray the costs of training young assistants the Foundation gave in 1921 the sum of $30,000 and pledged other sums on a diminishing scale for the two subsequent years."